IN THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF PENNSYLVANIA

KDH ELECTRONIC SYSTEMS, INC., :   CIVIL ACTION
et al.   :
                              :
          v.   :
                              :
CURTIS TECHNOLOGY LTD.,   :
et al.   :   NO. 08-2201

MEMORANDUM AND ORDER

McLaughlin, J.   December 23, 2008

          This case involves a contract dispute between

plaintiffs KDH Electronics, Inc. and KDH Defense Systems, Inc.

(collectively, "KDH") and defendants Dr. Thomas Curtis, Michael

Curtis and Curtis Technology (collectively, "Curtis"). The

subject of the contract is the development of an underwater radar

system, and the programming necessary for the system's design and

manufacture. The parties entered into a Teaming Agreement in

January of 2006. This agreement outlines the roles played by

each party in the design, testing, and manufacture of the radar

system, known as the T-3 System. Under the Teaming Agreement,

the plaintiffs were responsible for preparing funding proposals

and marketing the T-3 System, and the defendants assumed the role

of technical researcher, designer and developer.

          The Court decides here the nature of the defendants'

obligation to provide to the plaintiffs source code necessary for

the T-3 System's operation. The defendants acknowledge their

obligation to give the plaintiffs source code but contend that
they may prevent KDH from viewing or manipulating those portions
of source code that pre-existed the design of the T-3 System.
The Court concludes that the defendants may not so obscure any
portions of the source code. Under the Teaming Agreement, KDH
owns the source code necessary for the operation of the T-3
System whether or not it pre-existed the design of the T-3
System.[1]

I.   Background

        KDH designs and manufactures products sold to the
United States Navy and other defense organizations. Recently,
KDH decided that it would attempt to design, build and sell an
underwater radar system for use in detecting human swimmers.
This system is referred to as the T-3 System. To complete such a
system, KDH hired Dr. Thomas Curtis, Michael Curtis and their

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    [1] Curtis has argued in opposition to KDH's trial memorandum
and in a declaration submitted by Dr. Curtis on December 17,
2008, that certain Defense Federal Acquisition Regulations should
inform the Court's reading of the Teaming Agreement. KDH has not
responded, either in writing or at oral argument, to any issues
surrounding the applicability or effect of DFARs. Whether Curtis
has standing to press this issue, and whether the Teaming
Agreement's reference to certain Federal Acquisition Regulations
nullifies any effect of the DFARs remains unclear. This decision,
therefore, is the Court's final decision as to the ownership of
the T-3 System's source code under the Teaming Agreement assuming
that the DFARs do not affect its terms. The Court will order
further briefing on the issue of the DFARs and will revisit its
interpretation in light of that briefing.

company, Curtis Technology, Ltd., to develop the programming to make the system functional. Dr. Curtis has contributed to the development of radar technology over the course of several decades, is widely published on the subject, and has participated in the design and development of radar technology in projects spanning the globe.

A Teaming Agreement ("the Agreement") embodies the relationship between KDH and Curtis. Under the Agreement, Curtis was to provide certain source and object codes to KDH for the design, testing and manufacture of the T-3 System. These codes are referred to in the Agreement as the "Curtis Deliverables" and include source code for both the sonar head and graphical user interface of the T-3 System. Curtis did in fact develop these codes, along with a prototype of the T-3 System, but KDH claims that the technology developed by Curtis and belonging to KDH has not been provided to KDH for further testing and production of the T-3 System.

On May 12, 2008, the plaintiffs filed the complaint requesting, among other relief, a preliminary injunction ordering the defendants to turn over all engineering and programming information developed by the defendants for the T-3 System. The complaint alleges that Curtis has breached its obligations under the Teaming Agreement by delaying production and testing, by

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registering for patents on KDH's property, and by revealing confidential information to KDH competitors. Compl., ¶¶ 31-36.

After the filing of the complaint, the parties entered into two consent orders designed to provide the information needed for design, redesign, testing and manufacturing to KDH in order for KDH to ready the T-3 System prototype in time to perform a test required by the Navy, to whom KDH ultimately intended to sell the T-3 System. On June 3, 2008, the parties entered into a consent order ("June Order") which stated that Curtis would produce to the plaintiffs all "Technical Information," the "Curtis Deliverables," the "Archive Materials"...and any and all patent applications filed by the defendant(s) related to the T-3 System." Pl.'s Mem. Ex. 3. These items are defined in the Teaming Agreement. After several conferences involving the Court and the parties, a second consent order was entered on August 10, 2008, ("August Order"), which required Curtis to provide all of the source code which Curtis "believe[d]" to constitute the source code defined in an addendum to the Agreement, along with "all of the remaining source code used to write or amend the operating programmes used in the T-3 System, being the 'Process File.'" August Order, ¶¶ 1, 4.

II. The Evidentiary Hearing

On September 26, 2008, the Court held an evidentiary hearing on the issues of ownership over the T-3 System source code and the inclusion of dynamic link libraries ("DLLs") by Curtis in the code that it had already provided to KDH. The hearing took place following the plaintiffs' filing of a letter with the Court, which stated that Curtis had failed to conform to the terms of the two consent orders and that a continued delay of performance would undermine KDH's ability to market the T-3 System for sale to the U.S. Navy. This letter requested a hearing in order to facilitate a judicial resolution of the issues surrounding ownership of the source code. Pl.'s Letter, Sept. 15, 2008. Both parties have agreed that the Court has all of the information necessary to make a final decision on this issue and that a resolution of the ownership of the T-3 System's source code is necessary to the progress of this case. See, Tr. Hr'g at 10-11, Sept. 26, 2008.

The following are the Court's findings of fact from the evidentiary hearing. At the hearing, the parties testified concerning KDH's ownership rights under the Teaming Agreement and the information that Curtis had previously provided to KDH pursuant to the two consent orders.

"Source code" is coded information, which can be read by human beings and which software engineers use to create sets

of instructions ultimately interpreted by a computer in the execution of different applications. Tr. Hr'g 77, Sept. 26, 2008. In the case of the T-3 System, source code is used by each component part of the system in instructing those components to function in specific ways. See Id. at 27.

The parties are not in dispute as to the fact that the data disks provided by Curtis in September, 2008, contained a version of the T-3 System's source code with certain portions placed in DLLs. Id. at 46, 82, 141. DLLs are libraries of code that may be used by several different applications. Id. at 108. DLLs can also function as a black box, permitting the programs to run, but hiding the actual code used by the program. Id. at 109, 142. The portions of source code placed in DLLs on the discs provided by Curtis contained codes that Curtis had developed over the course of several decades and to which Curtis felt KDH was not entitled. Id. at 47, 139-41. These portions of code were common to other sonar systems developed by Curtis in the past. Id. at 140.

Source code is necessary to the development and production of the T-3 System. Id. at 26. Currently, the T-3 System is designed as a prototype. Id. As the prototype is tested, KDH expects that certain portions of source code will need to be rewritten in order to improve the system's functioning or to combat incorrect functioning. Id. When KDH and its agent,

Sonatech Engineering, received the T-3 System prototype for testing, the system did not perform as expected. Id. at 80. For example, KDH's President testified that the production-quality version of the T-3 System is likely to involve different hardware, necessitating a more compact design than the current prototype. Id. The use of new components, different from those used in the prototype, will involve changes to the system's source code, which will be redesigned to provide instructions to the system as to the operation of those new components. Id. at 26-27.

Furthermore, the prototype recently tested by KDH only surveils across a 180 degree arc; plans for the production model of the T-3 System involve a 360 degree arc. Id. In order to redesign the system to properly process and display the added 180 degrees, engineers will need access to the source code in order to modify how the sonar head operates. Id. Thus far, engineers attempting to manipulate the prototype's programming have been frustrated by the existence of DLLs in the source code provided by Curtis. Id. at 83. Curtis has offered to assist the KDH engineers with understanding the source code he provided to them via telephone conferencing or in person. Id. at 143.

III. Discussion

A. Ownership of Source Code Under the Teaming Agreement

The Court here decides the parties' ownership rights with respect to the T-3 System source code under the terms of the Teaming Agreement and whether the defendants have fulfilled their obligations under the Teaming Agreement to give the plaintiffs the source code for the T-3 System. The answer to this second question depends on whether the code contained in the DLLs included in Curtis' last provision of code constitutes part of the source code that the defendants must give the plaintiffs under the Teaming Agreement. The Court concludes that the plaintiffs are entitled to the entire T-3 System's source code under the terms of the Teaming Agreement, and that code contained in the DLLs is part of that source code to which the plaintiffs are entitled. The parties essentially agree on their respective rights and obligations under the Teaming Agreement. The parties agree that (1) KDH owns and is entitled to all of the source code included in the provision of the contract entitled "Deliverables," Tr. Oral Arg. 7, Nov. 3, 2008; (2) the "Deliverables" include those portions of the source code that the defendants developed prior to the T-3 project, Id. at 14; and (3) KDH does not have any rights in source code developed by the defendants prior to the T-3 project that was not used in the T-3 project. Id. at 12-13.

The parties' concurring interpretation of the Teaming

Agreement is a straightforward application of the language of the

Agreement.[2] Paragraph 12 of the Teaming Agreement states:

Ownership of Products; Technical Information:

(a) The parties acknowledge that <u>KDH shall be the sole owner of the Products</u>, and that no other entity, including Curtis, shall have any claim of ownership to the Products. Curtis shall, however, have licensing rights to the Curtis Deliverables (as defined in Exhibit B) and Curtis Improvements (as hereinafter defined) pursuant to the terms set forth in Section 15 of this Agreement.

(b) In conjunction with KDH's ownership of the Products, Curtis will furnish KDH with any and all materials owned or controlled by Curtis necessary to permit KDH, or its designee, to complete the design, redesign, development, tooling, testing, prototype manufacturing and volume production of the Product (collectively, the "Technical Information")....

Pl.'s Mem. Ex. 1, ¶ 12.

"The Products" are described in an section of the

Teaming Agreement titled "Exhibit A: Description of the

Products." Pl.'s Mem. Ex. 1 at 12. The products are "high

frequency, short range underwater surveillance intrusion sonar

systems with their primary use being to detect swimmers and other

underwater craft." <u>Id.</u> The systems are "characterized in that

they contain one or more underwater sonar head assemblies and one

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[2]   The issue of ownership is a matter of contract interpretation. Under Pennsylvania law, which the parties recognize as controlling this contract dispute, a court must give effect to the contracting parties' intent. When a writing is clear, its meaning controls. <u>See</u>, <u>e.g.</u>, <u>Murphy v. Duquesne Univ. of the Holy Ghost</u>, 777 A.2d 418, 429 (Pa. 2001).

or more topside electronic assemblies." Id. The sonar head

assemblies "contain both a transducer portion and a digital

signal processing portion." Id.

The Teaming Agreement also describes the parties'

rights to intellectual property pertaining to novel developments:

> Intellectual Property: (a) Curtis shall make full and
> prompt disclosure to KDH of any and all novel
> inventions, improvements, discoveries, ideas, methods,
> developments, software, concepts, processes or
> improvements, or original works of authorship, in whole
> or in part, whether patentable or not, (collectively,
> "Inventions"), conceived or made by Curtis during the
> Term and during the one year period following the
> termination or expiration of this Agreement, which
> Inventions relate substantially to the Products....

Pl.'s Mem. Ex. 1, ¶ 13.

The licensing rights referred to in paragraph 12 are

defined in paragraph 15 of the Teaming Agreement:

> During the term of this Agreement, and any
> periods of restriction as set forth in Section 8 above,
> KDH shall provide Curtis with a license, at no cost to
> Curtis, to use the Curtis Deliverables and/or the
> Curtis Improvements solely for the specific industries
> and specific categories of business set forth in
> Exhibit G to this Agreement.

Pl.'s Mem. Ex. 1, ¶ 15.

The Curtis Deliverables include several kinds of

"executable source code" and object code, specifically the source

code for the sonar head assembly digital signal processing and

the graphic user interface. Pl.'s Mem. Ex. 1 at 13-14. The

contract also contains a section describing "archive materials,"

which states that "[f]or a period of Five (5) years following the delivery to, and acceptance by, KDH of the Curtis Deliverables for a given Product, Curtis will archive the following, or substantially equivalent materials." This language is followed by a list of materials that includes source code "for sonar head assembly digital signal processing" and "for user interface GUI [graphic user interface]." Pl.'s Mem. Ex. 1 at 18.

A separate section defines "technical information" as referred to in paragraph 12(b). This section includes "all sonar head electronics and digital signal processing IP" as well as "all data and filed currently located at Curtis."

Finally, paragraph 15 of the Teaming Agreement also includes a provision stating:

> "[e]xcept as set forth above, nothing contained in this Agreement shall be construed as...granting or conferring any right to use any information or know how which a party shall elect to furnish hereunder except as expressly authorized in the Agreement; or...granting or conferring any rights [to or licenses for] any patents, inventions, discoveries, improvements, or know how of any kind by virtue of this Agreement...."

Pl.'s Mem. Ex. 1, ¶ 15.

Based on these provisions, KDH owns the Curtis Deliverables. Paragraph 12 states that KDH owns the Products and that Curtis has only a license to the Curtis Deliverables. The Deliverables are components of the Product, as is clear from reading the description of the Products. Moreover, the parties agree that KDH owns the Curtis Deliverables. Tr. Oral Arg. 7,

Nov. 3, 2008. The Deliverables include source code "for sonar head assembly digital signal processing" and "for user interface GUI." The parties agree, and the contract indicates, that the Deliverables grant KDH ownership of the source code regardless of whether the programming for that source code predated the Teaming Agreement. The parties also agree, and the language of the contract indicates, that KDH's ownership of the source code is solely in relation to the source code use in the operation of the T-3 System. Tr. Oral. Arg. 12-13, Nov. 3, 2008. KDH does not exercise ownership over the code for any purpose whatsoever, but only for the use of the T-3 System.

Curtis has asserted that there exists a kind of source code that KDH does not own, specifically "processor source code." Tr. Oral Arg. 12, 37, Nov. 3, 2008. The Teaming Agreement makes no mention of such source code, but only of source code relating to the sonar head assembly digital signal processing and to the GUI. The "Products" are defined in Exhibit A of the Teaming Agreement to include "one or more sonar head assemblies and one or more topside electronic assemblies." Pl.'s Mem. Ex. 1 at 12. Thus, the components for which source code belongs to KDH encompasses the totality of the products.

The only mention of a separate type of source code is in the August consent order, which discusses "Process Files" and "Process Files Source Code." The order defines this code as "all

of the remaining source code used to write or amend the operating programmes used in the T-3 System" apart from "what the Defendants believe constitutes the source code defined in" the Curtis Deliverables provision. Counsel for Curtis has asserted that this source code relates to "the processor, the computer." Tr. Oral Arg. 37, Nov. 3, 2008. If these process files consist of source code used to write or amend programs for either the sonar head assembly digital processing or GUI, then it is source code "for" those components and thus part of the Curtis Deliverables. If the computer or processor to which counsel for Curtis has referred is required for the operation of either the sonar head assemblies or the GUI, then source code associated with the computer or processor is source code "for" the sonar head and GUI. The Court understands the August Order's reference to "all of the remaining source code used to write or amend the operating programmes used in the T-3 System" to act as a catch-all clause, designed to ensure that Curtis' "belief" as to the definition of other request items would not fall short of KDH's needs.

Although KDH owns the source code described in the Deliverables section of the Teaming Agreement, this ownership interest is limited to specific uses. KDH has conceded that their ownership interest in Dr. Curtis' pre-existing portions of

source code is limited to use in relation to the T-3 System. Tr.
Oral Arg. 38, Nov. 3, 2008.

Moreover, the confidentiality section of the Teaming
Agreement acts as a limitation of KDH's ownership interest.
Specifically, this provision requires that KDH maintain the
strict and indefinite confidentiality of "any Confidential
Information that is and continues to be a trade secret
hereafter." Pl.'s Mem. Ex. 1, ¶ 7. The provision also states
that KDH "shall not use, copy, reverse engineer, or reproduce, in
whole or in part, any Confidential Information, or use any of the
Confidential Information for any business advantage or disclose
any of the Confidential Information, except as authorized by this
Agreement and to accomplish the purposes of this agreement."
Id., ¶ 7(b). KDH has specifically acknowledged that this
provision constrains its use of source code to use on the T-3
project. Tr. Oral Arg. 37-38, Nov. 3, 2008.

   B.   Inclusion of DLLs in the Source Code Undermines KDH's
        Ownership Interest

In conjunction with the task of determining the parties
ownership rights over the source code for the T-3 System, the
Court must determine whether Curtis' provision to KDH of portions
of the source code with segments of the code obscured by DLLs
complies with the Teaming Agreement. The question hinges on

whether the code hidden in the DLLs falls under the definition of the Curtis Deliverables.

Curtis' provision of a version of the source code to KDH in which certain portions of source code are inaccessible does not comport with the Teaming Agreement. KDH's ownership of the source code used for the T-3 System requires that KDH be able to modify and perfect that code independently of any other actor. The inclusion of DLLs in the source code provided to Curtis prevents independent action and does not comply with the terms of the Teaming Agreement. Pl.'s Mem. Ex. 1, ¶ 12(b); Tr. Hr'g 140-41, Sept. 26, 2008.

Although Curtis did not write all of the T-3 System's source code specifically for the T-3 System, that fact is irrelevant to the issue of KDH's ownership and entitlement to such code. The source code in the DLLs is utilized in the operation of the components identified in the Curtis Deliverables, the sonar head technology and the graphic user interface. Tr. Hr'g 85, Sept. 26, 2008. Therefore, the DLLs obscure code to which KDH is entitled under the terms of the Teaming Agreement. Pl.'s Mem. Ex. 1, ¶ 12(b). The use of DLLs frustrates KDH's ownership interest in that code. Tr. Hr'g 85-87, Sept. 26, 2008. Therefore, Curtis must provide KDH with all of the T-3 System's source code without DLLs if it is to comply with the terms of the Teaming Agreement.

C.   Compliance with the Consent Orders

The June Order stated that Curtis would "produce to plaintiffs on or before June 12, 2008, all 'Technical Information,' the 'Curtis Deliverables,' the 'Archive Materials,' as defined in the Teaming Agreement [and certain patent applications]." Pl.'s Mem. Ex. 3. The August Order stated that Curtis would provide by September 5, 2008, "all of the source code which Defendants believe constitutes the source code defined in Exhibit B to the Teaming Agreement [i.e., the "Curtis Deliverables"]." Pl.'s Mem. Ex. 4. In exchange for that code, the plaintiffs agreed to place $12,500 in escrow for Curtis, "until Plaintiffs confirm in writing that they have received all of the CDs identified in paragraph 1 or the court shall otherwise order." Id. The August Order goes on to say that Curtis would deliver by September 5th, 2008, "what [Curtis] believe[s] to be all of the remaining source code used to write or amend the operating programmes used in the T-3 System, being the 'Process File.'" Id. In exchange for this code, KDH placed into escrow a check for $5,000, payable to Curtis. Id.

In response to these consent orders, Curtis provided a version of source code with portions placed in DLLs. Tr. Hr'g 46, 82, 141, Sept. 26, 2008. These DLLs prevent KDH from viewing the actual source code, which the Court has found to belong to KDH

under the Agreement. The June Consent Order's requirement that Curtis produce the "Curtis Deliverables," was enough to require an unredacted version of that source code. The demands for both the "Curtis Deliverables" and "Technical Information" taken together leave no room for hiding portions of the source code behind opaque data modules like a DLL.

Curtis has acknowledged that the DLLs included in the code provided to KDH contained Curtis' "own generic source code." Tr. Oral Arg. 12, Nov. 3, 2008. At the evidentiary hearing held on September 26, 2008, the Court heard testimony from an engineer tasked with testing the T-3 prototype and modifying its software to combat problems arising during testing. That testimony established that the source code provided by Curtis did not comprise the entirety of the T-3 source code as defined under the Teaming Agreement. Tr. Hr'g 85, 136, Sept. 26, 2008. Curtis' failure to deliver all of the relevant code, without the inclusion of DLLs, was a violation of the June Order.

The Court will not find Curtis in violation of the August Order. Any consent order premised on the other party's "belief" as to what is required will always be difficult for a complaining party to enforce. Although the Court finds that Curtis has acted on a misreading of the parties' agreement, the Court does not find that Curtis actually believed that he owed the full source

code to KDH or that he otherwise acted in bad faith in not disclosing his preexisting data.[3]

Curtis requests that the checks held in escrow under the August Order be released to the defendants. The August Order states, with respect to both checks, that the checks will be held in escrow "until plaintiffs confirm in writing that they have received all of the CDs identified in paragraph 1 or the court shall otherwise order." KDH has not confirmed in writing that they have received all of the CDs identified in paragraph 1. The Court declines at this time to order that the checks held in escrow be released to the defendants. The Court will revisit the issue of releasing the checks after Curtis provides KDH with an unredacted, fully accessible version of the source code necessary for the operation, testing, design, redesign, development and manufacture of the T-3 System.

An appropriate order follows.

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[3]   KDH asserts that the disks Curtis provided pursuant to the August Order arrived after the date specified in that order. However, the parties appear to have been aware of this delay prior to September 5, 2008, and KDH did not raise any objection to such a delay at the time. Given the confusion over shipping dates and delays, the Court does not view the delayed receipt of the Curtis disks as substantial non-compliance with the order.

IN THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF PENNSYLVANIA

KDH ELECTRONIC SYSTEMS, INC., :   CIVIL ACTION
et al.   :
                              :
          v.   :
                              :
CURTIS TECHNOLOGY LTD., et al.:   NO. 08-2201

ORDER

AND NOW, this 23rd day of December, 2008, upon
consideration of the plaintiffs' memorandum of law in support of
ownership of the entire T-3 System source code (Docket No. 22);
the defendants' opposition (Docket No. 28), the plaintiffs'
response (Docket No. 30), and after an evidentiary hearing held
on September 26, 2008, and oral argument held on November 3,
2008, THE COURT FINDS:

    (1) That KDH owns the entire source code for the T-3 System
         under the terms of the Teaming Agreement;

    (2) That KDH's ownership of the source code is limited
         specifically for the purposes of developing and
         operating the T-3 System; and

    (3) That the use of any means to hide certain portions of
         the T-3 System source code, including the use of
         dynamic link libraries, undermines KDH's ownership
         interest in that source code

    IT IS HEREBY ORDERED that the defendants may submit a
brief discussing only their position as to the effect of the

Defense Federal Acquisition Regulations on the Court's

interpretation of KDH's ownership of the entire T-3 System's

source code. It is further ORDERED that if the defendants choose

to submit such a brief, it must be filed no later than January

23, 2009. It is further ORDERED that the plaintiffs will have

two weeks from the date any such brief is filed to respond by

filing a brief in opposition and speaking only to the issue of

the Defense Acquisition Regulations' impact on the Court's

interpretation of the parties' ownership interests in the T-3

System's source code.

BY THE COURT:

/s/Mary A. McLaughlin
Mary A. McLaughlin, J.